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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/838,741	04/19/2001	Dick L. Knox	104-22997	9328

7590 08/22/2002
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EXAMINER

LE, DANG D

ART UNIT PAPER NUMBER

2834

DATE MAILED: 08/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/838,741

Applicant(s)

KNOX ET AL.

Examiner

Dang D Le

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 12 and 13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 12 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-9 in Paper No. 4 is acknowledged. New claims 12 and 13 are not restricted.

Specification

2. The disclosure is objected to because of the following informalities: page 8, lines 2 and 4, replace "45" with -- 42 --. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. The term "about" in claim 13 is a relative term which renders the claim indefinite. The term "about" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably appraised of the scope of the invention. It is not clear if 29 psi and 31 psi are also claimed.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2834

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 3-5 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Erickson.

Regarding claim 1, Erickson shows that in an electric motor having a shaft and a bearing located within a housing that is adapted to be filled with lubricant (see Figure), the improvement comprising:

- At least one centrifugal lubricant pump stage (40) located in the housing (10, 10b), the pump stage having an impeller (43) attached to and rotating with the shaft (11) and a mating diffuser (41) for pressurizing the lubricant; and
- A flow passage (11a to 11b) leading from the lubricant pump stage to the bearing (12).

Regarding claim 3, it is noted that Erickson also shows the diffuser being upstream of the impeller.

Regarding claim 4, it is noted that Erickson also the pump stage being oriented for discharging lubricant in an opposite direction from the bearings (bore 11b).

Regarding claim 5, it is noted that Erickson also shows the impeller of the pump stage having substantially radial flow passages.

Regarding claim 12, it is noted that Erickson also shows the method of operating an electric motor having a shaft and a bearing located within a housing that is adapted to be filled with lubricant, comprising:

- Art Unit: 2834

- Mounting at least one centrifugal lubricant pump stage in the housing, the pump stage having an impeller attached to and rotating with the shaft and a mating diffuser for pressurizing the lubricant;
- Supplying power to the motor to cause the shaft and the impeller to rotate; and
- With the pump stage, applying pressure to the lubricating fluid and flowing the lubricant to the bearing.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Erickson in view of Guardiani et al..

Art Unit: 2834

Regarding claim 2, Erickson shows all of the limitations of the claimed invention except for the at least one pump stage further comprising a second pump stage having an impeller and a diffuser mounted in the housing downstream of the first pump stage for further pressurizing the lubricant.

Guardiani et al. show the at least one pump stage further comprising a second pump stage (Figure 7) having an impeller and a diffuser mounted in the housing downstream of the first pump stage for further pressurizing the lubricant for the purpose of increasing pressure.

Since Erickson and Guardianni et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to include a second pump stage having an impeller and a diffuser mounted in the housing downstream of the first pump stage for further pressurizing the lubricant as taught by Guardianni et al. for the purpose discussed above.

11. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Erickson in view of Carle.

Regarding claim 6, Erickson shows all of the limitations of the claimed invention including a chamber located in a lower portion of the housing for containing a volume of lubricant; the shaft being hollow, and the flow passage being within the shaft for communicating fluid from the chamber to the bearings; but except for the pump stage discharging downward.

Art Unit: 2834

Carle shows the pump stage discharging downward (Figure 3C) for the purpose of lubricating bearings.

Since Erickson and Carle are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have the pump stage discharge downward as taught by Carle for the purpose discussed above.

12. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carle in view of Guardiani et al.

Regarding claim 7, Carle shows an electric submersible pump assembly for a well, the assembly comprising:

- An electrical motor having a shaft (19) and a bearing (58) located within a housing that is adapted to be filled with lubricant (Figure 3c);
- A chamber (Figure 3c) located in a lower portion of the housing for containing a volume of lubricant;
- A flow passage (40-57) within the shaft leading from the chamber to the bearing;
- A pump exterior of the motor and connected to the shaft for pumping well fluid (column 2, lines 30-35).

Carle does not show first and second centrifugal lubricant pump stages, each pump stage located in the chamber of the housing and each having an impeller

- Art Unit: 2834

attached to and rotating with the shaft and a mating diffuser for pressurizing the lubricant.

Guardiani et al. show first and second centrifugal lubricant pump stages(67, 69, Figure 2), each pump stage located in the chamber of the housing and each having an impeller attached to and rotating with the shaft and a mating diffuser for pressurizing the lubricant for the purpose of increasing pressure.

Since Carle and Guardianni et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to include first and second centrifugal lubricant pump stages, each pump stage located in the chamber of the housing and each having an impeller attached to and rotating with the shaft and a mating diffuser as taught by Guardianni et al. for the purpose discussed above.

Regarding claim 8, it is noted that Carle also shows the impellers of the pump stages having substantially radial flow passages.

Regarding claim 9, it is noted that Carle also shows the pump stages discharging downward and are located in a lower portion of the housing (Figure 3C).

13. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Erickson.

Regarding claim 13, Erickson shows all of the limitations of the claimed invention except for the pressure of the lubricant being at least about 30 pounds per square inch.

• Art Unit: 2834

It would have been obvious to one having ordinary skill in the art at the time the invention was made to set the pressure of the lubricant at least about 30 pounds per square inch, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Information on How to Contact USPTO

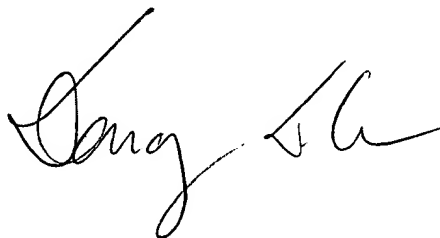
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D Le whose telephone number is (703) 305-0156. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

DDL
August 20, 2002

DL

A handwritten signature in black ink, appearing to read "Dang D Le". The signature is fluid and cursive, with the first name "Dang" being more prominent and the last name "Le" following it.